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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/885,226
Filing Date: June 20, 2001
Appellant(s): PAYER ET AL.

MAILED
JAN 28 2008
GROUP 2800

J. Grant Houston
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on October 25, 2007 appealing from the Office action mailed April 7, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

Claims 1-34 are pending in this application. Claims 27-34 are withdrawn from consideration. Claims 1-26 stand Non-Finally rejected pursuant to the outstanding Office Action. Claims 1-26 are on appeal.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,841,544	Dautartas et al.	11-1998
5,888,841	Synder	3-1999
WO 91/06022	Musk	5-1991
EP-0961150 A2	Aksyuk	12-1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Dautartas et al (5,841,544).

Dautartas discloses a micro-optical component in figure 1, comprising an optical element including a lens 32, for interacting with an optical beam and a mounting structure 12 for attaching the optical element to an optical bench 70, wherein the optical element is attached to the mounting structure by solid-phase welding or thermo-compression bonding (column 2, lines 58-59).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 4 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dautartas et al (5,841,544) in view of Synder (5,888,841).

The Dautartas et al. satisfies the limitations of claims 1, 2, and 5. Dautartas et al. in column 2, lines 43-44, discloses substrate made of silicon or of any suitable material. However, Dautartas et al. does not disclose bonding methods recited in claims 3, 4, 16 and 17 and gold coating required for thermocompression bonding as recited in claims 9 and 11. Synder, in figure 3 and 4, discloses bonding of an optical component to a substrate 102 and also in column 7, lines 45-50, discloses various methods by which the optical components can be bonded to a substrate. In addition Synder, in column 6, lines 47-48, disclose use of gold in coating the substrate for bonding purpose.

It would have been obvious to one of ordinary skill in the art to use one of the suitable methods for bonding as taught by Synder and use substrate of metal or any other suitable material, as suggested by Dautartas et al. for purpose of supporting the optical element.

5. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dautartas et al in view of Aksyuk et al (EP 0961150 A2).

Claims 5-8 recite the optical element of the micro-optical component being variety of different elements. Dautartas only discloses a lens being the optical element.

Aksyuk discloses a micro-electromechanical device interacting with an optical bench to provide a switching or other mechanical, electromechanical or electrical function to the optical bench.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to replace the lens taught by Dautartas with the micro-electromechanical device as taught by Aksyuk because the micro-electromechanical device would provide a switching or other mechanical, electromechanical or electrical function to the optical bench.

Regarding to the mounting structure being fabricated from a metal, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

6. Claims 14, 15, 18, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dautartas et al in view of Musk (WO 91/06022) and Aksyuk et al (EP 0961150 A2).

Dautartas all the limitations of claim 14 including an optical element including a lens for interacting with an optical beam, a mounting structure, the optical element solid phase welded to the mounting structure and an optical bench. However, Dautartas et al. does not disclose the mounting structure solder bonded to the optical bench. Musk discloses a mounting structure for an optical element and the mounting structure 1 is soldered to the bench 10 (see page 5, lines 3-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to solder the mounting structure of the Dautartas to the bench as taught by Musk so as to permanently fix the mounting structure to the bench.

Regarding to the different optical elements, Dautartas teaches an optical lens and Aksyuk teaches a micro-electromechanical device. Furthermore, Aksyuk teaches that a micro-electromechanical device interacting with an optical bench to provide a switching or other mechanical, electromechanical or electrical function to the optical bench.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to replace the lens taught by Dautartas with the micro-electromechanical device as taught by Aksyuk because the micro-electromechanical device would provide a switching or other mechanical, electromechanical or electrical function to the optical bench.

Regarding to the mounting structure being fabricated from a metal, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

7. Claims 16, 17 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dautartas et al in view of Musk (WO 91/06022) as applied to claims 14 above, and further in view of Synder (5,888,841).

As discussed above, Dautartas in view of Musk satisfies the limitation of claim 14. However, Dautartas or Musk do not disclose bonding methods recited in claims 16 and 17 and gold coating required for thermocompression bonding as recited in claim 24. Synder, in figure 3 and 4, discloses bonding of an optical component to a substrate 102 and also in column 6, lines 47-48, disclose use of gold in coating the substrate for bonding purpose. Therefore, it would have been obvious to one of ordinary skill in the art to use gold for bonding as taught by Synder so that the optical element can be bonded to the mounting structure.

(10) Response to Argument

The appellant argues that the reference by Dautartas et al (US 5,841,544) does not teach or suggest the combination of an optical element and a mounting structure, wherein the mounting

structure attaches the optical element to an optical bench because Dautartas shows a ball lens 32 being solid phase welded directly to an optical bench 12 or platform.

The examiner respectfully disagrees with the appellant's interpretation of the optical bench 12 of Dautartas because Dautartas discloses a **surface 70** where the optical element 12 is mounted. When the lens 32 is attached to the first element 12 that is mounted on the second element 70, the first element 12 is the mounting structure for attaching the lens 32 to the second element 70. Therefore, **the element 12 is not the optical bench and it is the mounting element**. Furthermore, **the surface 70 is the optical bench**. In addition, claim 1 does not recite any distinct structural feature of the mounting structure and the optical bench of the instant invention to distinguish them from the mounting structure 12 and the optical bench 70 of Dautartas. Thus, the appellant's argument about the mounting structure and the optical bench only deals with naming convention of the elements without reciting distinct structural features of the elements. Lastly, Dautartas discloses that the optical element 32 is mounted on the mounting structure 12 by thermocompression bonding (see column 2, lines 58-59) and not by solid-phase welding. However, the instant specification page 1, line 16 defines that **thermocompression bonding is one type of solid phase welding**. Therefore, the optical element 32 of Dautartas is bonded to the mounting structure 12 by solid phase welding.

Appellant argues that claim 14 would not be obvious in view of the Dautartas patent, WO 91/06022 and the Aksyuk application because claim 14 requires an optical element solid-phase welded to a mounting structure and the mounting structure then solder bonded to an optical bench. Appellant argues that Dautartas patent does not includes a mounting structure and the

secondary references does not teach the combination of the solid phase welding of an optical element to a mounting structure and solder bonding of the mounting structure to the bench.

The examiner respectfully disagrees with the appellant because, as stated above, Dautartas clearly discloses an optical element 32 solid phase welded to a mounting structure 12 and the mounting structure 12 placed on a bench 70. However, Dautartas does not disclose the mounting structure 12 to be solder bonded to the bench 70. On the other hand Musk clearly discloses on page 5, lines 3-7 that a mounting structure 1 for an optical element 6 is soldered to a bench 10. Therefore, the combination of Dautartas patent and the secondary references do teach the optical element solid phase welded to a mounting structure (by Dautartas) and the mounting structure solder bonded to the bench (by Musk).

Regarding the reference by Synder (US 5,888,841), the examiner is not focusing on the mounting structure. Instead the examiner is focusing on the bonding method and gold coating taught by Synder. Thus, the examiner believes the rejections applied in this office action are appropriate.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Hae Moon Hyeon

December 26, 2007

A handwritten signature in black ink that reads "Hae Moon Hyeon". The signature is written in a cursive, flowing style with some capitalization and is positioned to the right of the typed name.

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Conferees:

Tulsidas Patel



David Blum

